



# SAFETY DATA SHEETS

Version: 1.1

Creation Date: April.22, 2020

Revision Date: Oct.11, 2021

## SECTION 1: Identification

### 1.1 Product identifier

**Product name** 1-Dodecanethiol  
**Brand** Xingrui  
**CAS number** 112-55-0

### 1.2 Recommended use of the chemical and restrictions on use

**Identified uses** Laboratory chemicals, Manufacture of substances  
**Uses advised against** no data available

### 1.3 Supplier's details

**Company** Xingrui Industry Co., Limited  
**Address** NO.12111, Jingshi Road, Jinan City, Shandong Province, China  
**Telephone** +86 531 88980365

### 1.4 Emergency phone number

**Emergency phone number** +86 15589969550  
**Service hours** Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Skin corrosion (Sub-category 1C), H314  
Serious eye damage (Category 1), H318  
Skin sensitization (Sub-category 1B), H317  
Short-term (acute) aquatic hazard (Category 1), H400  
Long-term (chronic) aquatic hazard (Category 1), H410  
For the full text of the H-Statements mentioned in this Section, see Section 16.



## 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage

H317 May cause an allergic skin reaction

H410 Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash ... thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

Response

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P316 Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352 IF ON SKIN: Wash with plenty of water/...

P333+P317 If skin irritation or rash occurs: Get medical help.

P362+P364 Take off contaminated clothing and wash it before reuse.

P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P317 Get medical help.

P391 Collect spillage.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

## 2.3 Other hazards which do not result in classification



This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
1-Dodecanethiol	1-Dodecanethiol	112-55-0	203-984-1	100%

### SECTION 4: First-aid measures

#### 4.1 Description of necessary first-aid measures

##### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

##### If inhaled

Fresh air, rest. Refer for medical attention.

##### Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower.

##### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

##### Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention .

#### 4.2 Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary. Anticipate seizures and treat if necessary. For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport. Do not use emetics. For ingestion, rinse mouth and administer 5 m1/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal. Cover skin burns with dry sterile dressings after decontamination.



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## SECTION 5: Fire-fighting measures

### 5.1 Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>) Foam Dry powder

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, Sulphur oxides, Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

### 6.2 Environmental precautions

Personal protection: self-contained breathing apparatus. Collect leaking and spilled liquid in sealable containers as far as possible. Carefully collect remainder.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material. Dispose of properly. Clean up affected area.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

NO open flames. Above 88°C use a closed system and ventilation. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.



## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions

Tightly closed.

Separated from strong oxidants. Separated from strong oxidants.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Components with workplace control parameters.

### 8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear safety goggles or eye protection in combination with breathing protection.

#### Skin protection

Protective gloves. Protective clothing.

#### Respiratory protection

Use ventilation, local exhaust or breathing protection.

#### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

### Physical state

Lauryl mercaptan is an oily colorless liquid with a mild skunk odor.

Freezing point 19°F. (USCG, 1999)

### Colour

Colorless, water-white, or pale-yellow, oily liquid [Note: A solid below 15 degrees F].

### Odour

MILD CHARACTERISTIC

### Melting point/freezing point

-7°C

### Boiling point or initial boiling point and boiling range

266-283°C(lit.)

### Flammability

Class IIIA Combustible Liquid: Fl.P. at or above 140°F and below 200°F.



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Lower and upper explosion limit/flammability limit	no data available
Flash point	120°C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	less than 1 mg/mL at 70° F (NTP, 1992)
Partition coefficient n-octanol/water	log Kow = 6.1 8 (est)
Vapour pressure	0.00861mmHg at 25°C
Density and/or relative density	0.845g/mL at 25°C(lit.)
Relative vapour density	7 (vs air)
Particle characteristics	no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Decomposes on burning. This produces toxic gases. Reacts with strong oxidants.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents

strong reducing agents

Alkali metals

Strong bases

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

They will react with water, steam, or acids to produce toxic...vapors... Mercaptans

### 10.6 Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /sulfur oxides/.



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## SECTION 11: Toxicological information

### Acute toxicity

Oral: LD50 Mouse oral 4225 mg/kg.

Inhalation: no data available

Dermal: no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

no data available

### Reproductive toxicity

no data available

### STOT-single exposure

The substance is irritating to the eyes, skin and respiratory tract.

### STOT-repeated exposure

Repeated or prolonged contact may cause skin sensitization.

### Aspiration hazard

A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20°C.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish: no data available



Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

An estimated BCF of 360 was calculated for 1-dodecanethiol(SRC), using an estimated log Kow of 6.1 8(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is moderate(SRC), provided the compound is not metabolized by the organism(SRC).

### 12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of 1-dodecanethiol can be estimated to be  $1.1 \times 10^4$ (SRC). According to a classification scheme(2), this estimated Koc value suggests that 1-dodecanethiol is expected to be immobile in soil.

### 12.5 Other adverse effects

no data available

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## SECTION 13: Disposal considerations

### 13.1 Disposal methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: 1760

(For reference only,  
please check.)

IMDG: 1760

(For reference only,  
please check.)

IATA: 1760

(For reference only,  
please check.)





### 14.2 UN Proper Shipping Name

ADR/RID: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (For reference only, please check.)	IMDG: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (For reference only, please check.)	IATA: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (For reference only, please check.)
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### 14.3 Transport hazard class(es)

ADR/RID: 8 (For reference only, please check.)	IMDG: 8 (For reference only, please check.)	IATA: 8 (For reference only, please check.)
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### 14.4 Packing group, if applicable

ADR/RID: III (For reference only, please check.)	IMDG: III (For reference only, please check.)	IATA: III (For reference only, please check.)
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### 14.5 Environmental hazards

ADR/RID: Yes	IMDG: Yes	IATA: No
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### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
1-Dodecanethiol	1-Dodecanethiol	112-55-0	203-984-1
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.



## SECTION 16: Other information

### 16.1 Information on revision

Version	1.1
Creation Date	Apr. 22, 2020
Revision Date	Oct. 11, 2021

### 16.2 Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### 16.3 References

#### Full text of H-Statements referred to under sections 2 and 3.

- Aquatic Acute Acute aquatic toxicity
- Aquatic Chronic Chronic aquatic toxicity
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

#### Full text of R-phrases referred to under sections 2 and 3

### 16.4 Further information

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